| Ref<br># | Hits | Search Query                         | DBs   | Default<br>Operator | Plurals | Time Stamp       |
|----------|------|--------------------------------------|---|---------------------|---------|------------------|
| L1       | . 13 | "Shibutani, Mitsuo".in.              | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR                  | OFF     | 2005/12/05 10:25 |
| L2       |      | "Shibutani, Mitsuo".in. and carbonyl | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR                  | OFF     | 2005/12/05 10:26 |
| L3       | . 4  | L2 and salt                          | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR                  | OFF     | 2005/12/05 10:26 |

| Ref<br># | Hits   | Search Query  | DBs   | Default<br>Operator | Plurals | Time Stamp       |
|----------|--------|---|---|---------------------|---------|------------------|
| L1       | 81820  | (dispers\$3 or surfactant) and "polyvinyl alcohol"          | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR                  | OFF     | 2005/12/05 14:37 |
| L2       | 521438 | hydroxides or carboxylic                                    | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR                  | OFF     | 2005/12/05 14:37 |
| L3       | 325976 | L2 and (sodium or magnesium or calcium or zinc or aluminum) | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR                  | OFF     | 2005/12/05 14:38 |
| L4       | 222313 | L3 and salt   | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR                  | OFF     | 2005/12/05 14:39 |
| L5       | 24694  | L1 and L4   | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR                  | OFF     | 2005/12/05 14:39 |
| L6       | 10675  | L5 and "vinyl acetate"                                      | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR                  | OFF     | 2005/12/05 14:39 |
| L7       | 1128   | L6 and saponification                                       | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR                  | OFF     | 2005/12/05 14:40 |
| L8       | 447    | L7 and hydrolysis   | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR                  | OFF     | 2005/12/05 14:40 |

| L9 16 L8 and ("melt kneading" and extrusion) | US-PGPUB; OR USPAT; USOCR; EPO; JPO; DERWENT; IBM TDB | OFF | 2005/12/05 14:40 |
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|--|---|-----|------------------|

| Ref<br># | Hits   | Search Query  | DBs   | Default<br>Operator | Plurals | Time Stamp       |
|----------|--------|---|---|---------------------|---------|------------------|
| L1       | 81820  | (dispers\$3 or surfactant) and "polyvinyl alcohol"          | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR                  | OFF     | 2005/12/05 14:37 |
| L2       | 521438 | hydroxides or carboxylic                                    | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR                  | OFF     | 2005/12/05 14:37 |
| L3       | 325976 | L2 and (sodium or magnesium or calcium or zinc or aluminum) | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR                  | OFF     | 2005/12/05 14:38 |
| L4       | 222313 | L3 and salt   | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR                  | OFF     | 2005/12/05 14:39 |
| L5       | 24694  | L1 and L4   | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR                  | OFF     | 2005/12/05 14:39 |
| L6       | 10675  | L5 and "vinyl acetate"                                      | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR                  | OFF     | 2005/12/05 14:39 |
| L7       | 1128   | L6 and saponification                                       | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR                  | OFF     | 2005/12/05 14:40 |
| L8       | . 447  | L7 and hydrolysis   | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR                  | OFF     | 2005/12/05 14:40 |

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| L9  |            | L8 and ("melt kneading" and extrusion)                         | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR   | OFF | 2005/12/05 15:34 |
|-----|------------|--|---|------|-----|------------------|
| L10 | 308        | (dispersant or surfactant) and ("melt kneading" and extrusion) | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR   | OFF | 2005/12/05 15:34 |
| L11 | . 0        | L10 and "polyvinyl alcohol" and "melt salt"                    | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR   | OFF | 2005/12/05 15:35 |
| L12 | <b>4</b> 5 | L10 and "polyvinyl alcohol" and "metal salt"                   | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR   | OFF | 2005/12/05 15:42 |
| L13 | 92         | ("manufacture of" or process) adj<br>dispersant                | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR   | OFF | 2005/12/05 15:43 |
| L14 | · 20       | L13 and "polyvinyl alcohol"                                    | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR . | OFF | 2005/12/05 15:43 |
| L15 | . 0        | L14 and ("melt kneading" and extrusion)                        | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR   | OFF | 2005/12/05 15:44 |
| L16 |            | L14 and "melt kneading"  | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR   | OFF | 2005/12/05 15:45 |

| L17 | . 638  | "polyvinyl alcohol" and "melt<br>kneading"                    | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR      | OFF | 2005/12/05 15:45 |
|-----|--------|---|---|---------|-----|------------------|
| L18 | 286    | L17 and "polyvinyl chloride"                                  | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR      | OFF | 2005/12/05 15:46 |
| L19 | 164    | L18 and (dispersant or emulsifier or stabilizer)              | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR      | OFF | 2005/12/05 15:47 |
| L20 | 151    | L19 and "vinyl acetate"                                       | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR      | OFF | 2005/12/05 15:54 |
| L21 | 109409 | (dispersant or "dispersing agent" or "dispersing stabilizer") | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR<br>, | OFF | 2005/12/05 15:55 |
| L22 | 146108 | "polyvinyl alcohol"   | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR      | OFF | 2005/12/05 15:56 |
| L23 | 11536  | "polyvinyl alcohol" and "metal salt"                          | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR      | OFF | 2005/12/05 15:56 |
| L24 | . 2698 | L21 and L23   | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR      | OFF | 2005/12/05 15:56 |

| L25 | 492   | L24 and hydroxides                      | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2005/12/05 16:29 |
|-----|-------|---|---|----|-----|------------------|
| L26 | 8     | L25 and ("melt kneading" and extrusion) | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2005/12/05 15:57 |
| L27 | 65020 | (suspending or dispersing) adj<br>agent | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2005/12/05 16:30 |
| L28 | . 342 | L27 and "saponified polyvinyl alcohol"  | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2005/12/05 16:30 |
| L29 | 5     | L28 and ("melt kneading" and extrusion) | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2005/12/05 16:42 |
| L30 | · 11  | "3205204".pn. or "3340243".pn.          | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2005/12/05 16:43 |